# Miguel Jiménez

Computer Science Department
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## Research Interests

My area of research is Software Engineering with a focus on the design and development of architectures and infrastructures for self-adaptive software systems.

My research interests include self-adaptive systems, continuous software engineering, models at run-time and domain specific languages. I am currently working towards automated software evolution of cloud software applications through quality-driven continuous experimentation.

## Education

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|---|---|
| 2016-Present | **Ph.D. in Computer Science** - University of Victoria, Victoria, Canada |
| | GPA 3.85/4<br>Advised by Hausi Müller and Gabriel Tamura<br>*Thesis topic: Continuous software evolution at run-time* |
| 2014-2016 | **M.Sc. in Software Engineering** - Universidad Icesi, Cali, Colombia |
| | GPA 3.87/4<br>Advised by Gabriel Tamura<br>*Thesis: A framework for generating and deploying dynamic performance monitors for self-adaptive software systems* |
| 2009-2014 | **B.E. in Systems Engineering** - Universidad Icesi, Cali, Colombia |
| | GPA 3.21/4 • Engineering Dean's list in semesters VI, VII, VIII and IX<br>Advised by Angela Villota-Gomez and Gabriel Tamura<br>*Degree project: PaSCAni: A language for run-time V&V of functional requirements (Spanish)* |

## Selected Awards and Honors

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|---|---|
| 2018, 2019 | **Travel Scholarship**, CRA-URMD Grad Cohort |
| 2017, 2018 | **UVic Graduate Award**, University of Victoria |
| 2017 | **Howard E. Petch Research Scholarship**, University of Victoria |
| 2017, 2018 | **IBM Advanced Studies Grant**, IBM |
| 2016 | **Doctoral Fellowship (full academic scholarship)**, University of Victoria |
| 2014 | **Master's Fellowship (full academic scholarship)**, Universidad Icesi |
| 2014 | **Student Loan Forgiveness**, Colombian Institute of Educational Credit and Technical Studies |
| 2013 | **Top ECAES Exam**, Colombian Institute for the Promotion of Higher Education |
| 2009 | **Undergraduate Scholarship (25%)**, Universidad Icesi |
| 2011-2014 | **Engineering Dean's list in semesters VI, VII, VIII, & IX**, Universidad Icesi |

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[1]This curriculum vitae was last updated on March 31, 2019. Download the latest version from migueljimenez.co/cv.pdf

# Publications

**Refereed Journal Articles**

**Refereed Conference Proceedings**

**Refereed Workshop Proceedings**

**Selected Posters and Contributed Talks**

# Research Experience

Jan 2018 - Present    ***Project Lead Student***
IBM Advanced Studies + Rigi Research Group, University of Victoria, Canada
*Advised by Joe Wigglesworth (IBM), Hausi Müller and Gabriel Tamura*

Conduct research and collaborate with the team behind IBM Cloud Automation Manager to develop round-trip engineering mechanisms for infrastructure as code, and automate continuous experimentation for deployments on the cloud.

Jan 2014 - Aug 2016    ***Graduate Research Assistant***
i2T/DRISO Research Group, Universidad Icesi, Colombia
*Advised by Gabriel Tamura*

- Identified challenges in dynamic performance monitoring of self-adaptive systems and proposed technical solutions following the SOA philosophy to advance the state of the art
- Designed and implemented two domain-specific languages for dynamic monitoring and distributed deployment
- Managed the computing resources of the i2T/DRISO research group's computing grid (I5 physical machines)

Jun 2013 - Dec 2013    ***Research Assistant Intern***
i2T/DRISO Research Group, Universidad Icesi, Colombia
*Advised by Gabriel Tamura*

Implemented and conducted quantitative experiments for the matrix multiplication problem.

# Teaching and Mentoring Experience

Spring 2018    ***Graduate Teaching Assistant***
Assistance Centre in Computer Science, University of Victoria

Tutored students and assisted them with programming assignments in one-on-one sessions.

2016-2018    ***Graduate Teaching Assistant***
Fundamentals of Programming with Engineering Applications (CSC 111), University of Victoria
Instructor: Hausi Müller

- Lectured weekly labs and assisted students with programming and lab assignments
- Co-led weekly meetings and developed teaching material and quizzes
- Developed GradeBuddy, a program to assist teaching assistants and professors in automating the marking of programming assignments
- Developed a multi-platform installation assistant to ease the installation of CLion and its dependencies on Windows, Mac and Linux
- Developed examgen, a program to generate examinations along with their solutions from a YAML input file. The resulting files are rendered to either LaTeX or Moodle. By creating examgen, we stopped printing 2800 quizzes and reduced marking time by 30h per term
- Deployed an online platform to host and mark programming assignments

Fall 2016    ***Graduate Teaching Assistant***
Data Structures I (CSC 225), University of Victoria
Instructor: Ulrike Stege

Lectured weekly labs, developed scripts to automate marking and graded assignments.

Spring 2016    ***Technical Advisor***
Undergraduate degree project, Interactive Media Design Program - Universidad Icesi

Knowledge management and dissemination: alternative soccer culture
Student: Juan David Flórez Bautista

Spring 2015    ***Tutor***
Undergraduate degree project, Interactive Media Design Program - Universidad Icesi

Folii: natural and interactive encyclopedia mediated by citizen science
Students: Juan Pablo Pérez, Mauricio Alberto Toro

Spring 2011    ***Teaching Assistant***
Data Structures and Algorithms, Universidad Icesi
Instructor: Angela Villota-Gomez

Graded programming assignments.

## Invited Talks

## Service and Volunteering

2011-2012    ***Volunteer instructor for the Web Programming Club***
Universidad Icesi, Cali, Colombia

Developed teaching material and lectured members of the programming club on HTML, CSS and JavaScript.

## Skills

- **Programming Languages**

Java, Xtend
JavaScript, CSS, HTML
C
Python
Go
C#
Oz
ShellScript

- **Technical Skills**

Architecture Design
Build Automation
Containerized Applications
Continuous Delivery
Data mining (basic)
Infrastructure Provision
Language Engineering
Microservices Architecture
Object Oriented Programming
Performance Monitoring
Service Component Architecture

- **Languages**

Spanish (Native)
English (Fluent)
French (Elementary)